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Introduction

"Wee Recyclers is Our Name; Recycling and Reusing is Our Game!"

Recycling is a simple game of saving, matching and sorting. The recycling game is fun to play because the rules are easy to understand and follow. Everyone can play, and in the end, everyone is a winner. Unfortunately, in today's society, we have forgotten how to play the recycling game. Living in a fast-paced, high-tech world of disposables, we have become a "throw-away" society; a society that has taken the attitude of: "It's okay, throw it away." Our wee ones can give us a chance to relearn the recycling game and help solve our growing solid waste problem.

Early child care programs are ideal for teaching children the importance of recycling and reusing and the skills to start recycling and reusing today. The lessons presented in Wee Recyclers coincide with many developmental skills you already teach. In Wee Recyclers activities, children sort, match and compare recyclable items and learn to separate some items by number and color. They learn to work with letters and numbers, as well as recycling words and symbols. And perhaps most importantly, children learn environmentally sound ideas and behaviors as appropriate social behaviors. The guide contains many creative ideas for reusing materials in craft projects, games, dramatic play and pretend play.

All young children who care about the earth and the things living on it can become Wee Recyclers. Wee Recyclers develop an understanding that by reducing, reusing and recycling, they are helping preserve our natural resources and prolong the life of landfills. Wee Recyclers also learn that nature has set an example we need to follow for recycling.

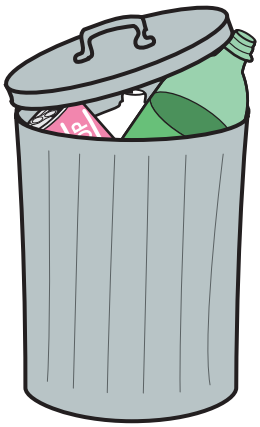
The **Wee Recyclers Activity Guide** helps you teach your children to become Wee Recyclers. The activities in this guide are simple, entertaining, hands-on and require minimal teacher preparation time. They contain teacher background information, easy to follow directions and suggestions for additional related activities. In addition to the teacher directed activities, this guide includes: stories and plays, songs, games, take-home recycling ideas, a complete glossary and a list of resources.

The **Wee Recyclers Online Resources** complement the Wee Recyclers Activity Guide with an array of supplemental materials, including posters, recycling labels, handouts, puppet patterns and the **Wee Crafts** guide. Online resources can be found online at http://dnr.wi.gov/eek/teacher/weerecyclers.htm.

Wee Recyclers materials are designed for use with 3-5 year olds in early child care settings. However, most activities can be modified for use with other age groups. Reproduction of any part of this guide for distribution to children and their families is encouraged.

Note: Words that appear in *italics* are defined in the glossary.

Sizing Up Solid Waste



People in Wisconsin throw out everything from toothbrushes to televisions, food scraps to plastic bags, cell phones to oil filters. If you added up all the waste from your house, the stores where you shop and the restaurants where you eat, it would amount to 4.7 pounds per person of *solid waste* thrown into the trash every day. If you multiply that by 365 days per year, then by 5.4 million Wisconsin citizens, you will find that Wisconsin generates more than 4.6 million tons of trash each year.

These materials make up our *municipal solid waste*. This much *trash* is enough to pile a typical city street 3 feet deep, curb to curb, for 500 miles – more than the distance from Superior to Chicago! Alternatively, if compressed like the way it is in landfills, that much waste would bury a 200-acre farm under 28 feet of trash each year.

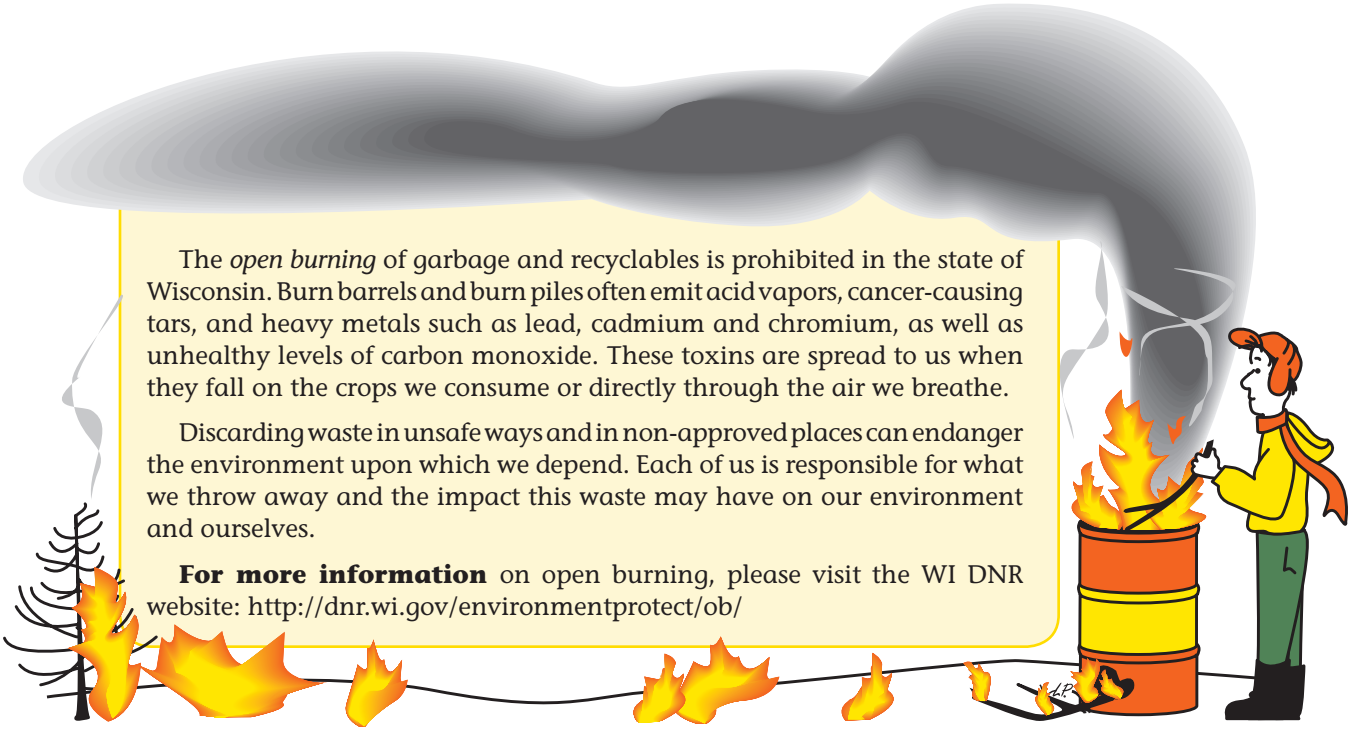
But when we throw things away, where do they go? Where is "away?" Is there such a place?

Where Does It All End Up?

About 60 percent of Wisconsin's trash or municipal solid waste ends up in the state's 41 or so licensed municipal landfills. A *landfill* is a place where trash is dumped, compacted and covered with dirt. Covering the trash controls blowing paper, odors, insects and rodents and keeps water out of the landfill. All of the licensed landfills in Wisconsin are *sanitary landfills* – designed, built and operated according to state-of-the-art standards to prevent *pollution* problems.

Approximately 40 percent of our trash gets *recycled*, composted or combusted with *energy recovered*. It's taken from your house or a drop-off site to one of the 150 or so *material recovery facilities* throughout the state. Here cardboard, newspaper, magazines, office paper, bottles and cans are sorted and sold to manufacturers who make new products out of them. Tires, vehicle batteries, motor oil and major appliances are also recycled, and about half the yard waste is managed "at home" by people who leave grass clippings on their lawn and *compost* leaves and herbaceous plants.

Unfortunately, some waste is still dumped along roadsides, in public parks or in other non- approved locations. Except for household wastes discarded on the homeowner's property, it is illegal to discard or incinerate *garbage*, trash, *industrial waste*, farm chemicals and other waste in places that are not approved by the state. Discarding waste in unsafe ways and in non-approved places can endanger the environment upon which we depend. Each of us is responsible for what we throw away and the impact that this waste may have on our environment.



The *open burning* of garbage and recyclables is prohibited in the state of Wisconsin. Burn barrels and burn piles often emit acid vapors, cancer-causing tars, and heavy metals such as lead, cadmium and chromium, as well as unhealthy levels of carbon monoxide. These toxins are spread to us when they fall on the crops we consume or directly through the air we breathe.

Discarding waste in unsafe ways and in non-approved places can endanger the environment upon which we depend. Each of us is responsible for what we throw away and the impact this waste may have on our environment and ourselves.

For more information on open burning, please visit the WI DNR website: http://dnr.wi.gov/environmentprotect/ob/

Wisconsin's Recycling Success

Wisconsin's nationally recognized recycling program was signed into law on Earth Day April 22, 1990 and fully put into action in 1995. Wisconsin was the first state to have statewide bans on landfilling large appliances, used motor oil, vehicle batteries, yard waste, steel containers, aluminum cans, corrugated paper, glass containers, magazines, newspapers, office paper, and plastic containers. Over 90 percent of households in Wisconsin recycle, which helps divert 1.6 million tons of materials from landfills each year. Not only is recycling the right thing to do, it supports thousands of jobs and adds to the 5.4 billion dollar environmental industry in Wisconsin.

What Is Required To Be Recycled In Wisconsin?

- Aluminum containers, glass containers, steel containers, containers made from a combination of steel and aluminum (bi-metal cans)
- Plastic containers #1 through #7. Currently a variance issued by the DNR allows plastic containers #3 through #7 to be landfilled or incinerated. If at some future time the DNR determines that adequate markets for these plastics exist, they will be banned from disposal.
- Magazines, catalogs and other materials printed on similar paper
- Newspaper, junk mail and office paper
- Major appliances including air conditioners, clothes washers and dryers, dishwashers, refrigerators, freezers, stoves, ovens, dehumidifiers, furnaces, boilers and water heaters
- Yard waste, including grass clippings, leaves, yard and garden debris
- Lead acid vehicle batteries, automotive waste oils and waste tires (except when incinerated with energy recovery)

Over time, there is the potential that more items will be added to this list. For an updated list of materials banned from Wisconsin landfills, visit: http://dnr.wi.gov/org/aw/wm/recycle/banned.html

Going Above and Beyond Wisconsin's Recycling Requirements

Wisconsinites are frequent recyclers, but there are new ways to do more! Thousands of tons of resources are lost each year when people place items in the trash that could be recycled, reused or composted. Besides the items banned by law, there are many other environmentally friendly opportunities to reduce waste and recycle or dispose of unwanted materials.

Food Scraps

Although yard materials are banned from Wisconsin landfills, food scraps are not. Compost your food scraps along with yard materials in your backyard. It's a simple way to save landfill space and reduce *methane gas* released from landfills. Be sure to check your local ordinances before starting a compost pile to find out if there are restrictions or other considerations that may apply.

Composting is a natural recycling process that you can begin at home with leaves, grass clippings, other lawn and garden materials and fruit/vegetable scraps. Natural microorganisms from the ground interact with compost materials to help break down plant matter. Proper moisture, air and temperature aid these natural microorganisms in their work and balanced materials prevent the compost from having an odor. Naturally fortified with nutrients, the finished compost is perfect for use as an organic plant food and soil additive.

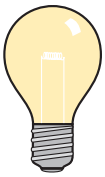
Electronics

The rapid turnover in computer technology is having a troubling side effect: each year millions of computers come to the end of their useful life. Every year 5-7 million computers, televisions, stereos, cell phones, electronic appliances and toys become obsolete in the United States.

Some of these electronics are being recycled, but there is not sufficient infrastructure for collecting, reusing, and recycling electronics. The majority are ending up in landfills or incinerators. Although electronics are not yet banned from Wisconsin's landfills, businesses and institutions must recycle discarded computers because of the *hazardous waste* they contain.

There are several states that have passed electronics recycling legislation to help keep electronics out of landfills and the environment. In 2009, Wisconsin state Senator Mark Miller introduced Senate Bill 107 to require manufacturers of electronics sold in Wisconsin to assume responsibility for the collection and proper disposal of those devices.

Light Bulbs



Incandescent light bulbs should not be included with household recyclables because they are not an acceptable kind of glass. They must be discarded with regular trash.

Compact fluorescent light bulbs (CFLs) are becoming more popular in households today because of their environmental and cost-saving benefits. However, these bulbs contain small amounts of mercury, and should be recycled to avoid contaminating the environment.

If CFLs are recycled, they release less mercury into the environment than traditional incandescent bulbs. CFLs use up to 75 percent less energy than incandescent bulbs, so less mercury is released from coal-fire power plants throughout the lifetime of the bulb. Once properly recycled, the mercury in the bulb can be recovered for reuse.

Thermometers

Many old thermometers contain mercury, which can cause air and water pollution and affect human health if released into the environment. These thermometers can be taken to your local Household Hazardous Waste Collection site. You can replace them with digital thermometers that do not contain mercury.

Although thermometers are not covered under the Wisconsin Recycling law, many communities and major retail stores have banned mercury product sales. Wisconsin communities that have banned mercury sales are Dane County, the City of Racine, and the City of Ashland.

Plastic Bags

Shoppers in the United States use an estimated 100 billion plastic bags every year and recycle only a small percentage of them. While many of the bags are reused by *consumers* as trash liners or pet waste bags, a large number still end up in landfills or cause harm in the environment without first being reused.

Plastic can take hundreds of years to *decompose*, and can pose risks even when it has degraded into smaller pieces, since these pieces are especially attractive to animals as food. Plastic bags are also believed to adversely affect landfill operations by interfering with moisture distribution and *leachate* flow within landfilled waste.

The best option is to use a reusable cloth bag or other reusable container, and reuse or recycle paper and plastic bags. Many grocery stores now offer durable, washable bags to their customers at very affordable prices.

Who Has To Recycle?

Wisconsin's recycling requirements apply to everyone in the state, in both public and private spaces. This includes daycares, schools, public places, businesses, special events, homes and apartments. The responsibility to ensure that recycling options are available at all locations lies with a local *Responsible Unit* (RU). An RU can be a municipality, county or tribe's *solid waste management* system or other unit of local government that is responsible for the planning, operating and funding of a recycling program. Each RU must develop and implement a recycling program to manage the banned materials generated within its region in compliance with state laws.

What Else Can We Do With Waste?

Wisconsin already reuses, recycles, composts or recovers energy from almost 40 percent (by weight) of its residential and commercial waste each year. This reduces the need for landfill space, saves the cost of disposal and reuses valuable natural resources. The overall goal of Wisconsin's recycling law is to reduce the volume of discarded items.

The following list includes options for managing solid waste, and is in order from most to least desirable:

Reduce the quantity of waste produced. For example, some products and packaging are designed to use less material, to be recyclable or to contain fewer hazardous chemicals. We can produce less waste through selective shopping. Also, we can encourage reduction by expressing our views about products and packaging to retailers, industry and government.

Reuse items. Food containers, old furniture, clothes, tires, appliances and automobiles, or their parts, industrial shipping containers (barrels, pallets, cardboard boxes) and many more items can be reused.

Recycle. For instance, recycled newspaper can be made into newsprint, paper bags, house insulation, egg cartons, animal bedding or cardboard. Glass and aluminum from beverage containers can be made into new containers. Cooking oils and meat fats can be made into chemicals and cosmetics, coal ash into shingles and concrete, and plastic bottles into artificial lumber, carpeting and winter jackets.

Compost organic wastes. Gardeners know both the ease and the value of composting food and yard wastes to create rich *humus* that improves soil fertility and texture. Some businesses also can compost their *organic* wastes. For example, cheese whey, organic sludge from paper mills and sewage treatment plants, and the remains from processing fish can be composted. Food wastes from grocery stores and restaurants are also compostable.

Incineration of waste with energy recovery. Each ton of solid waste has the energy equivalent of 70 gallons of gasoline – that's pretty valuable considering the rising costs of gasoline worldwide.

Landfill non-recoverable items. We may always need landfills, but using the techniques described above, Wisconsin is working to decrease this need.

Incineration of waste without energy recovery. Though this may be the lowest ranking option for disposal of waste, it is sometimes the only option for safe disposal of medical and *hazardous wastes*.

None of these options are the sole solution to our waste disposal problem. Each option has side effects that must be considered when we are selecting the best solution to each solid waste problem.

The Diaper Dilemma

Most of your "Wee Recyclers" may be too old for diapers, but there may be some children in your child care facility that use them. If so, you have a decision to make about what type of diaper to use. Consumer cost, convenience, comfort, sanitation, environmental impact, parental preference, availability of diaper services, laundry facilities, water and energy use, and trash disposal costs are just some of the variables to consider.

Wisconsin Act 335 – The Recycling Law, asks that you consider the state's commitment to reduce the volume of discarded solid waste by following the waste management hierarchy listed in the previous section.

Disposable (single-use) diapers contribute to our solid waste problem. They account for 1.3 percent of Wisconsin's municipal solid waste. Wisconsin's Recycling Law provides an exemption from sales and use taxes for cloth diapers and diaper services as an incentive to encourage people to consider alternatives to disposable diapers.